

MAY 27 1912

# THE CONDOR

A Magazine of Western  
Ornithology



Volume XIV

May-June, 1912

Number 3



COOPER ORNITHOLOGICAL CLUB

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Entered as second-class matter February, 1908, at the post office at Los Angeles (Hollywood Station), California, under Act of Congress of March 3, 1879.  
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**BULLETIN OF THE  
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# THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume XIV

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## SOME NORTH-CENTRAL COLORADO BIRD NOTES

By EDWARD R. WARREN

WITH MAP AND TWELVE PHOTOS BY THE AUTHOR

DURING the summer of 1911 I made a somewhat extended wagon trip through the north-central portion of Colorado, more especially for the purpose of collecting and studying mammals and birds, though other things were not neglected. I was accompanied by Mr. H. R. Durand as assistant and general factotum, and he proved every bit as satisfactory in those capacities as he was in 1909 when he was also with me. Mr. Durand was not with me the first few days, as he had the bad luck to contract the measles shortly before the starting day, and until he recovered I had William Newcomb of Colorado Springs for a companion, who also proved himself all right. As will be seen by the accompanying map my route was decidedly crooked. All told I traveled about 700 miles.

Leaving Colorado Springs May 18, I first went northward onto the "Divide", as the watershed between the Platte and Arkansas Rivers is commonly called. This is a yellow pine region, over 7000 feet elevation, and the surface is what is usually termed rolling. Camping at Elbert the night of the 19th, we woke the next morning to find snow on the ground and a howling blizzard in full action. We did not move camp that day, or the next either, though it had somewhat moderated then. From Elbert we traveled eastward, but not quite as I had planned, for I was obliged to swing off to the southward by Ramah instead of taking a more direct route to River Bend and Cedar Point, my first objectives. I did not do a great deal of collecting along here as it was largely the dry plains region, and without much of interest. Often we had to make long drives before we could find a camp with feed and water, and picked up what fuel we could along the road.

Reaching River Bend the 24th I went to Cedar Point, a few miles northwesterly, the next morning, and camped, having previously got into communication with Durand, and found out when he could join me. Cedar Point is the highest elevation in that locality, a few hundred feet higher than the surrounding country.

It may be described as a sandstone mesa, with a few scattering cedars, sufficient to give it a name. There evidently used to be more, but they have been cut for fuel and fence posts. My reason for coming here was to catch some wood rats, and ascertain the species. Merritt Cary of the Biological Survey had written me of having found signs of them there and of course I had to investigate them. The species proved to be *Neotoma baileyi*, as Cary had surmised. There were a number of species of birds about here, but nothing special.

The morning of the 28th we broke camp and drove to River Bend, where Newcomb took the train for home, and a little later, when the train from Denver arrived, I was joined by Durand and also Robert B. Rockwell, recently Associate Editor of THE CONDOR, who was taking a few days holiday. Gathering up the

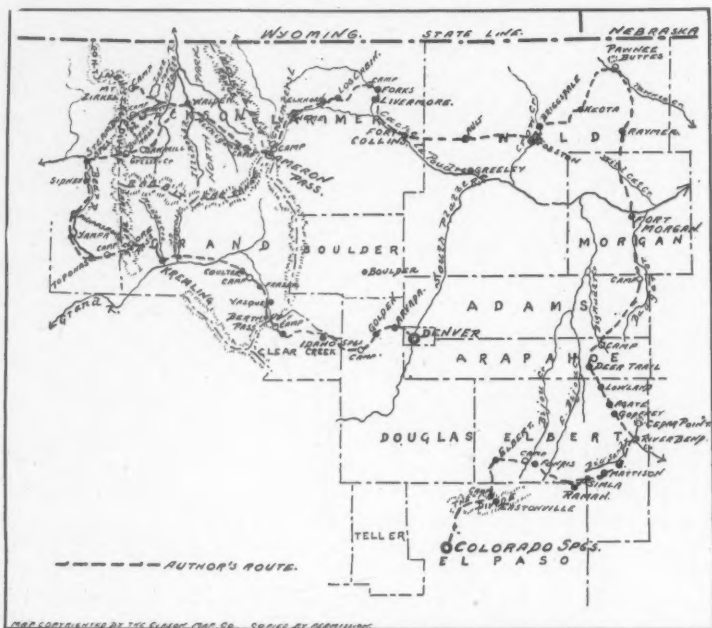


Fig. 29. MAP SHOWING PORTION OF NORTH-CENTRAL COLORADO TRAVERSED BY THE AUTHOR IN THE SUMMER OF 1911

impedimenta of the new arrivals we soon got under way, going westward, the road following parallel to the Kansas Pacific tracks. I may as well say right now that we three immediately started to have a good time, and I think we succeeded, though a stranger might have thought at times that a free fight was going on in the wagon, but that was merely one of our ways of enjoying ourselves. Incidentally we did a little collecting, made a good many notes, took some pictures, and so did not entirely neglect the scientific side.

The middle of the afternoon of the 29th we reached Deer Trail, got directions as to the road across country to Fort Morgan, and drove some ten miles farther, camping at Big Muddy or Deer Trail Creek. We saw our first young Mountain

Plover that afternoon, and wished very much to photograph it, but the wind was blowing a hurricane, and we did not attempt it.

The 30th we drove over a rolling prairie country, populated by millions of prairie dogs, as indeed had been the region through which we had already passed. It was a dry barren country, and bird life was pretty scarce. Perhaps the most interesting things we saw that day were three antelope, the first my companions had ever seen wild. In the old days I suppose one would have seen hundreds, if not thousands, in that same region, to say nothing of the buffalo.

There were a few ranches by the water courses; these were the older ones; other newer ranches had been taken up by settlers who hoped to make a go of dry

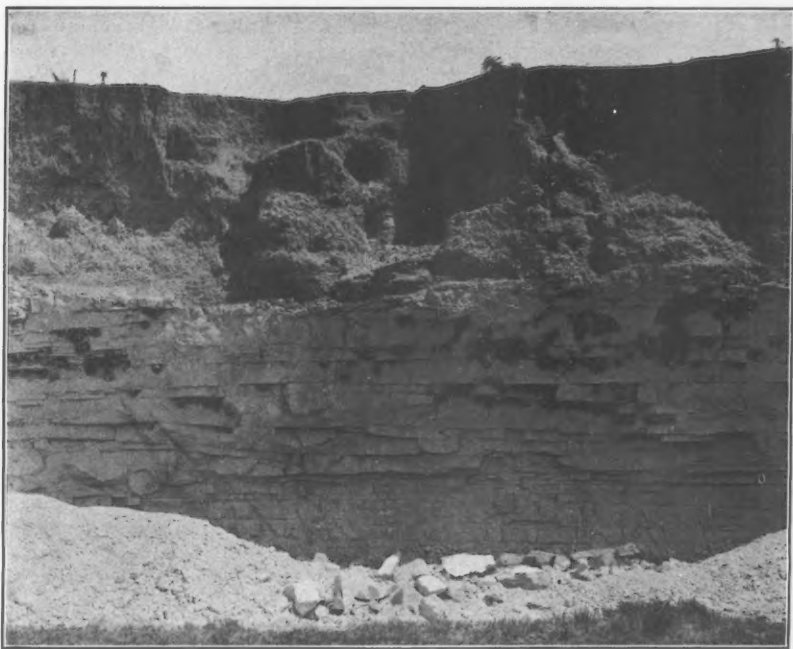


Fig. 30. COLONY OF CLIFF SWALLOWS ON THE SANDSTONE BLUFF FORMING THE BANK OF PAWNEE CREEK, WELD COUNTY, COLORADO

farming. These were dependent on wells for water, and some did not even have the well, but hauled their water from the wells of those who were more fortunate. About some of the old ranches birds were fairly abundant, as there were usually some trees. We camped that night near a well, which we emptied by the time we left next morning. We traveled on the 31st over country similar to that of the day before, varying the monotony of the proceedings by digging out a kangaroo rat. It was captured after an exciting chase, and caged, and Rockwell carried it to Denver with him that evening, intending to immortalize it with the camera. Instead, when he posed it, and asked it to look pleasant, it died of fright.

We reached Fort Morgan late that afternoon, just in time to load Rockwell



on the train and send him back to Denver. We were sorry to have him go, but he thought his business would go to the wall if he stayed away from it any longer, so we had to part. We stayed in Fort Morgan until Saturday, June 3, partly waiting for mail, and there were also a lot of little odd jobs I wished to get off my hands before going farther. We were camped not far from the fair grounds, and there were many trees about these, and consequently many birds, so that we were able to put in some time studying them. There is always one drawback about camping in a town, and especially a railroad town, and that is one never dares to leave his camp unprotected. Someone must always stay there, which of course limits the opportunities for study. The weather was decidedly warm here, up to the middle of the eighties in the shade.

June 3 we left, headed for Pawnee Buttes, with murderous designs on more wood rats, and as before, with Cary to blame for my going; for, as he had taken a species (*Neotoma rupicola*) there, which I had not taken, I felt bound to add it to my collection. Aside from this, the Buttes are a well known locality for fossil mammals of Tertiary age, and the American Museum has made large collections there. We reached there the afternoon of the 4th, camping at Raymer the night of the 3rd.

The fossils are in a soft friable sandstone, apparently somewhat argillaceous, which is easily eroded by wind and weather, and consequently worn down to the general level with the exception of the Buttes and a line of bluffs to the west and north, which, having a capping of hard conglomerate and sandstone, have resisted the elements better. About the East Butte was a small colony of White-throated Swifts, and on a sandstone bluff forming the bank of Pawnee Creek at one place was a colony of Cliff Swallows unusually well situated for photographic purposes. We did not devote as much time to the birds as we might, partly because we were interested in fossils just then, and partly because on the last three afternoons of our stay we had tremendous wind and dust storms, making it almost impossible to do any field work, especially the day before we left, when it was about as bad a storm of the sort as I have ever seen.

We left June 10, driving nearly thirty-five miles, and camping at Crow Creek, near Briggsdale, a newly started town. The next day we had a very interesting time. We took pictures of rabbits, cottontails and a young jack, a Meadowlark's nest, Nighthawks, and a young Mountain Plover. The prairies were yellow in some places with the blossoms of the prickly pear (*Opuntia*), and in others white with the evening primrose (*Oenothera*). The day was hot, and we saw many birds, Lark Sparrows, Horned Larks and Mountain Plover, squatting in the shadows of the fence posts to get what relief they could from the heat. A few miles east of Ault we began to get into the irrigated district, and the green fields and trees certainly did look good to us after passing over so much of the dry plains. Stopping for the night at Ault we went as far as Fort Collins the next day, reaching there early in the afternoon. I at first tried to find W. L. Burnett, who is now Curator of the Museum of the Agricultural College, but he happened to be out of town for the day, so I hunted up a camping place on the north side of the town by the Cache la Poudre River, and we made ourselves comfortable. Late in the afternoon Burnett came and paid us a visit. We spent the whole of the next day there, leaving on the 14th, accompanied by Burnett who wished to get a taste of the simple life. He got it that night when a sudden shower came up and nearly drowned him in his bed.

A few miles after leaving Fort Collins we reached the foothills and the



yellow pines, and the next day were in a region where the country rock was mostly granite. The afternoon of the 15th we camped a couple of miles east of Log Cabin P. O., and put out some mammal traps. The following day we stayed right there, for it rained all day, and there is no fun traveling in the rain. There were some outfits of movers camped not far from us, and I have a suspicion they must have thought we were crazy from the capers we cut, but something had to be done to pass the time. Burnett's time was up the next day, and he only went with us a few miles, when we met the stage to Fort Collins, and he had to return with it, to our mutual regret. We went on past Elkhorn Post Office, and a little beyond drove down the long Pingree Hill, as it is called, a good piece of mountain road building, and reached the West Fork of the Cache la Poudre at Rustic, another post office. We turned up the river, which



Fig. 31. VIEW BETWEEN MOUNT ZIRKEL AND BALDY, LOOKING TOWARD UTE PASS

is in rather a narrow valley or canyon here; no chance to turn out to camp, or feed the horses. I bought some hay at Home, a little summer resort, and a couple of miles farther on we finally found a place to camp. Not that it was late, but I like to stop early when I can, so as to have an opportunity to look about, set traps, and collect.

We were now really beginning to get into the mountains, to the great pleasure of us both, for the plains region did not specially appeal to either one of us. The road next morning became more and more wild and picturesque, and we enjoyed the fine canyon down which the river rushed and tumbled. I made much use of the camera that day. The road was rough and steep, but we reached Chambers Lake, our destination, early in the afternoon, and camped a mile or so beyond. The altitude here was 9100 feet; the hills were mostly covered with lodge-

pole pine of various sizes from the smallest trees just starting, in comparatively lately burned tracts, to the large trees many years old. There was also a certain amount of ground without any green timber, only the dead burnt standing or fallen trees. We stopped at this camp until the 22nd, having much rain. Collecting was not specially good here. Then we crossed the Medicine Bow Range by Cameron Pass into Jackson County, which is in the North Park. The altitude of the Pass I made 10,150 feet. This was a fine drive as the scenery was grand at many times. We were stuck in a snow bank a few minutes, and found flowers growing beside snow banks. The road down the North Park side was quite steep, and in need of repair in places. Several times it was necessary to "ride the high side" to keep the wagon from overturning where the road was washed out on one side.

We dropped down a few miles and made camp by a rushing branch of the Michigan River, where there was plenty of good grass for the horses. I called this camp "Cameron Pass Camp". Here we made our first acquaintance with North Park mosquitos, and did not get rid of them until over a month later, when we crossed to the Routt County side. We stopped here until the 25th, when we



Fig. 32. YOUNG MOUNTAIN PLOVER,  
ABOUT A WEEK OLD. AULT,  
COLORADO, JUNE 11, 1911

started on and reached Walden the next day. This is the county seat, and the only town of any size in the Park. It is situated on the sage brush plain by the Illinois River, though to the westward is an alkali flat with greasewood, sloughs, and a few small lakes. The predominating birds of this sage and greasewood region were Sage Thrashers and Brewer Sparrows, which were abundant. The altitude of Walden is 8275 feet.

Mosquitos were there by millions. Much hay is raised in the North Park, the meadows are irrigated, and the water kept on from early summer until time

to cut hay, and the result is that often one cannot go about with any comfort without a headnet.

We remained at Walden until June 30, when we left, intending to go to Red Canyon, of which we had heard as probably being a good place to work. It would take too much space to tell of our mishaps of that day, how we got on wrong roads, stuck in the mud, and finally did not get to Red Canyon at all, but landed at Hell Creek. We did not know where we were until next day, when we went exploring on foot, found a saw mill, got some information, walked over to Red Canyon and explored that a little. It was not quite what I wanted, for I was looking for a place where I could get to timberline without too much trouble, and it would have been too long a walk there, even though I might have camped much nearer to the Canyon than we were at the time.

However, we stayed at Hell Creek until July 5, celebrating the Fourth with a feast of wild strawberries. Our next camp was Lake John, or rather at Brand's ranch, close by. This is a large lake, of irregular shape, perhaps two miles long, and nearly as wide, altitude 8200 feet. There were a considerable number of

water birds here, but not many species. It did not strike me as a particularly favorable place for nesting, as with the exception of a patch of rushes at the southerly end, there was but little cover. Along the west shore were a few willows, while the other parts of the shore along which we walked were somewhat steep with but little along the water's edge, and the ground back from the water covered with greasewood. Aside from the species I will mention beyond, Cary (North American Fauna No. 33) speaks of finding the Canada Goose and Shoveller Duck breeding here, as well as the Wilson Phalarope. The latter we saw elsewhere, but not at Lake John.

Leaving this point on the 8th, we started for a place the Brands told us of, in the mountains of the Continental Divide. We managed to get on a wrong road, but landed on our feet, for we found as good a place for our work as there was about there, at the foot of Mt. Zirkel, on what is called the Ute Pass Trail. This was once a trail over which cattle were driven to the Routt County side for the summer range. Mt. Zirkel is the highest mountain in this part of the Continental Divide, its altitude being 12,000 feet.

Our camp was located as far up as we could get the wagon, at an altitude of 9275 feet; at that date there was snow in patches on the slope of Baldy Mountain almost on a level with the camp, while in the timber and high up on the mountain was much more, often in good sized fields. Here it was not much more than spring, as such flowers as marsh marigolds (*Caltha rotundifolia*) and dog-tooth violets (*Erythronium parviflorum*), which are the first to bloom in such regions,

were in their prime beside the snow banks. The trees were Engelmann spruce and balsam fir (*Abies lasiocarpa*), with aspens on the lower slopes. Near and above timberline alpine flowers of various species were blooming in profusion. We strung a line of traps from near camp almost to the summit of the mountain, and while the catch was not large some rather good records were made. Brown-capped Rosy Finches and Pipits were common, and a single Ptarmigan was seen.

Here we stopped until the 17th, and then returned to Walden for supplies and mail, staying there until the morning of the 22nd, doing a little more collecting, and then leaving for Buffalo Pass and Steamboat Springs. We reached an old saw mill about five miles below the summit of the pass late that afternoon, and camped for a couple of days. This is frequently referred to beyond as "the Buffalo Pass saw mill." This was among the lodge-pole pines. The five miles of road to the summit was badly washed and very rough, but taking our time, the horses made it up without much trouble, and we made another camp just on the Jackson County side of the pass, at an elevation of 10,400 feet.

Here we were among the Engelmann spruces again, but the surrounding



Fig. 33. YOUNG MOUNTAIN PLOVER, A DAY OR TWO OLD. RAYMER, COLORADO, JUNE 4, 1911

country did not reach as high an elevation as at our Mt. Zirkel camp, and there were many open grassy slopes. It was beautiful about there, and we enjoyed our few days' stay. A good find here was a family of Three-toed Woodpeckers nesting close by, of which more in its proper place. On the 28th we crossed the Divide and dropped nearly 4000 feet down to Steamboat Springs, altitude 6680 feet, at this place making a connection with the route followed on my trip in 1907. I decided to drive from here to Denver v'a Berthoud Pass. This route took me over some of my 1907 ground, and over some that was new. I had never been over the Gore Pass in the Park Range, and from Sulphur Springs to Denver it was all new. As I wished to reach Denver by a certain date we traveled rather steadily and had little or no time for collecting, our observations being confined to such things as we saw along the road. We reached Denver early on the morning of the 8th, having camped at Arvada, a few miles outside of the city, since noon of the previous day, packing up the outfit so that there would be as little as possible of that sort of work to do when we did get into town. I went direct to a sale stable, where the wagon and horses were sold by auction the next day, while the balance of the outfit was shipped home by freight.

One thing which I noticed all through the trip was the great scarcity of such birds as warblers and vireos. As these notes show, we saw but few of these birds, either species or individuals. I do not know how to account for it. I think we are both good enough collectors and observers to have found the birds if they had been present. They should have been at some, at least, of the localities we visited.

1. *Colymbus nigricollis californicus*. Eared Grebe. This species was seen at three localities in the North Park. At a lake a few miles south of Lake John at least two were seen. At Lake John they were by far the most common of the water birds, and I estimated that at least 90 per cent of the water birds seen were grebes. They were nesting in a patch of rushes at the southeast corner of the lake, where we found at least twenty nests close together, and the birds seemed to have but just begun laying. The largest set in this group consisted of but three eggs, which were perfectly fresh. Some little distance from these nests we found another which contained nine well incubated eggs with the eggs covered, all the others having been uncovered. We saw many of the birds swimming about as we pushed the boat around through the rushes. This was July 7. On the 17th we saw two grebes with broods of young on a small lake on a ranch southeasterly from our Mt. Zirkel camp.

2. *Larus delawarensis*. Ring-billed Gull. A few seen about Lake John July 6.

3. *Hydrochelidon nigra surinamensis*. Black Tern. Three or four Black Terns were seen flying about the rushes on Lake John, July 7. We searched everywhere for their nests, but unsuccessfully.

4. *Mergus americanus*. Merganser. A female of this species was seen above the falls in Red Canyon, July 1.

5. *Anas platyrhynchos*. Mallard. May 25 I flushed a male from a slough between Cedar Point and River Bend; two Mallards were seen July 5 at a ranch on Red Canyon Creek, and a few were seen on Lake John on the 6th. Cary mentions finding them breeding at this place.

6. *Chaulelasmus streperus*. Gadwall. Gadwall seemed to be the most common ducks on Lake John, and quite a number were seen. July 6 a female was seen accompanied by seven young, perhaps one-quarter grown.

7. *Querquedula discors*. Blue-winged Teal. A few were seen on Lake John.

8. *Erismatura jamaicensis*. Ruddy Duck. A male seen on Lake John.

9. *Nycticorax nycticorax naevius*. Black-crowned Night Heron. While camped at Fort Collins, June 13, several were seen flying overhead, and one was seen at Lake John July 7.

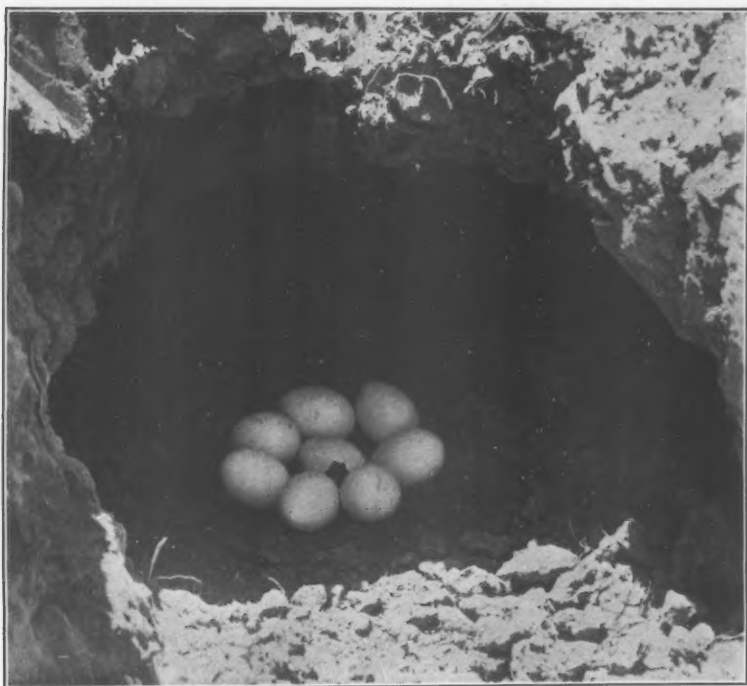


Fig. 34. NEST OF BURROWING OWL, PLACED IN A DESERTED PRAIRIE DOG HOLE. THE ENTRANCE IS DUG OPEN SO AS TO EXPOSE THE EGGS

10. *Fulica americana*. Coot. A number of Coots were seen on Lake John July 6.

11. *Steganopus tricolor*. Wilson Phalarope. May 19 some twenty-five or thirty were seen on a small pond or reservoir at a ranch some twelve miles southwest of Elbert. Two were seen on a pool in an irrigated meadow on the way to Red Canyon, June 30; one was seen on a meadow southeast of Mt. Zirkel (the meadows are irrigated so freely that there are many pools in them); July 20 Durand saw one near Walden.

12. *Recurvirostra americana*. Avocet. July 19, while at a small lake

two or three miles northwesterly from Walden I saw a number of Avocets. I counted five, and am of the opinion that there were at least three pairs there, and also that they had young, though I could not find the latter.

13. *Gallinago delicata*. Wilson Snipe. Durand saw one in a meadow near Hell Creek, July 4.

14. *Totanus flavipes*. Yellow-legs. A single bird of this species was seen in a small stream about ten miles south of Yampa, August 3. I also thought I saw one in a slough near Walden, July 19.

15. *Actitis macularius*. Spotted Sandpiper. The first Spotted Sandpipers were seen at and about Chambers Lake. June 20 Durand found there a nest with three eggs, and no more had been laid the next day, so presumably the clutch was complete. One was seen June 22 on Cameron Creek well up toward the pass. The species was seen at Walden, at the lower bridge across the North Platte, and one or two were seen about Lake John. It was at a small lake just on the Routt County side of Buffalo Pass, at over 10,000 feet altitude. It was about the Bear River at Steamboat Springs, and August first, while fishing below the town, it was really abundant. I do not think I have ever before seen so many in a given time or space as I did that afternoon; often I saw four or five together. August 2 it was seen occasionally between Steamboat Springs and Phippsburg, and the next day one was seen several miles south of Yampa. One was seen August 7 on Clear Creek below Idaho Springs.

16. *Numenius americanus*. Long-billed Curlew. A single Curlew was seen in a field about twelve miles south of Fort Morgan.

17. *Oxyechus vociferus*. Killdeer. Beginning with my camp at Bi'ou Creek May 22, Killdeer were continually seen between there and Pawnee Buttes, being at the last named locality. Then none were seen until near Fort Collins, and it was also seen at that place and a few miles beyond there. Walden was reached before more were seen; it was common there and elsewhere in those portions of the North Park we visited. It was seen at Steamboat Springs; also at Troublesome Creek, Grand County.

18. *Podasocys montanus*. Mountain Plover. Seen at Cedar Point May 25. May 29 it was occasionally seen between Godfrey and Big Muddy Creek; on the high prairie between Deer Trail and Big Muddy we saw one with two small young, hardly a day old. May 31 it was seen occasionally. June 4, between Raymer and Pawnee Buttes, quite a number were seen. A few miles from Raymer we came across a female with two very small young, one of which I photographed several times. It tried hiding. My notes say that while hard to find it was easily seen when once found, for its colors did not blend particularly well with the ground it was on, not as much so as the photograph would lead one to infer. I think photographs often deceive in this respect. The mother bird tried various wounded bird acts while I was working with her baby. One of these was to lay flat on the ground with wings outspread and flutter them, and then flutter along the ground. Near Keota I saw one lying dead under a wire fence, as if it had been killed by striking the wire. June 11 a number were seen several miles east of Ault, most of which were females with young, some with two, some with three. We caught one a week or ten days old and photographed it. The flight feathers were just beginning to come out, and it could run like a streak, spreading out its wings as it did so. The mother did not show



anything like the anxiety the other had just a week previously. The young we saw that day all seemed to be about the same age. Sometimes we saw a single adult squatting in the shade of a fence post, and one young bird was seen in a similar position. A few were noted between Ault and Fort Collins the next day. One was seen July 5 about three miles southeast of Lake John, which acted as if it might have young, but a thorough search failed to scare up any.

19. *Dendragapus obscurus*. Dusky Grouse. Not as many Grouse were seen as I should have expected. One was seen near Hell Creek. Two females with one or more young each were seen near our Mt. Zirkel camp. One of these young appeared to be about two weeks old, that belonging to the other bird was



Fig. 35. YOUNG OF THE ALPINE THREE-TOED  
WOODPECKER, JUST OUT OF THE NEST

considerably larger. This was July 12-15. July 28 seven Grouse were seen on the Routt County side of Buffalo Pass about two miles from the summit.

20. *Lagopus leucurus*. White-tailed Ptarmigan. A single Ptarmigan was seen July 10 on Mt. Zirkel, the only one we saw the whole trip. I was greatly disappointed, for I had counted on finding them plentiful there, and on securing a good series of photographs. Durand reported finding much sign of them on Sawtooth, near the Cameron Pass camp.

21. *Centrocercus urophasianus*. Sage Grouse. This species was seen only in the North Park. Near our camp at Hell Creek we saw a flock of fifteen adults, which appeared to be all males. July 5 we saw about two miles from



there a young bird about a third grown, and one about the same size was seen next day at Lake John. July 21 Durand saw a hen with four chicks near Walden, and on the 22nd while on the road en route for Buffalo Pass we saw two hens each with two fair sized chicks, about fifteen miles southwest of Walden. Many of these birds must winter about Walden, for there were piles of their old droppings everywhere in the sage brush near that place.

22. *Zenaidura macroura carolinensis*. Mourning Dove. This bird was common everywhere from the time I left Colorado Springs until near Log Cabin P. O., after which we saw no more until about twelve miles south of Walden. A few were seen at about every place we visited in the North Park. It was seen at Steamboat Springs, and along the road in Routt and Grand Counties, and between Idaho Springs and Denver. One was seen on its nest in a cottonwood tree on Wild Cat Creek, June 3.

23. *Cathartes aura septentrionalis*. Turkey Vulture. This species was seen on two occasions, May 23, about two miles east of Fondis, and June 14, near Owl Canyon, northwest of Fort Collins.

24. *Circus hudsonius*. Marsh Hawk. Marsh Hawks were not seen as frequently as I would have expected, but a few being noted, as follows: near Ramah, Mattison, about eighteen miles south of Fort Morgan, and three miles north of that place, at Steamboat Springs, and ten miles south of there.

25. *Buteo borealis calurus*. Western Red-tail. This species was seen quite frequently, though I made but one note of it on the plains, and that was really from the Divide, near Elbert, where a pair were seen. The next occasion was July 17, two miles above Home P. O., when we were getting well into the mountains. It was noted between that place and Chambers Lake, and at the latter place; fifteen miles south of Walden; near that place; near Hell Creek; at our Mt. Zirkel camp; at the Buffalo Pass sawmill; at Buffalo Pass; Steamboat Springs and a few miles south. One perched on a fence post on the divide between Yampa and Egeria Park dropped a half-eaten Wyoming Ground Squirrel (*Citellus elegans*) as it flew off. One was seen on the Gore Pass road near Rock Creek.

26. *Buteo swainsoni*. Swainson Hawk. This is more a bird of the open ground than the preceding, and seen more frequently on the plains. It was noted at Elbert and near there; two, presumably a pair, were seen at Cedar Point; it was seen May 29 between Godfrey and Deer Trail; May 30 we saw two recently killed birds at a ranch by the roadside; Durand saw one hanging about the East Pawnee Butte; one seen near Briggsdale. Two or more were seen at Walden at various times; at this place I found where one had been eating a *Citellus elegans*. These large hawks must destroy many of these pests during the summer as in the North Park they seemed to hang about where the ground squirrels were most abundant. It was seen at Hell Creek and at Steamboat Springs.

27. *Archibuteo ferrugineus*. Ferruginous Rough-leg. One seen between Briggsdale and Ault, June 11. Several large hawks were seen while on the plains, flying too high for identification, some of which may likely enough have been this species. July 22, in the North Park, between two forks of Grizzly Creek, a Rough-leg in the ordinary light phase was seen on the ground, and at the same time a very dark colored hawk was flying about overhead, which may have been a melanistic example of the same species, or possibly *B. swainsoni*. It was too far away for any positive identification.

28. *Falco mexicanus*. Prairie Falcon. There were two pairs of Prairie Falcons at Pawnee Buttes, both nesting. One bird was seen at the nest on the side of the West Butte, and the other pair were nesting in the line of bluffs to the west of the Buttes. From a point some little distance off we could see into the cavity under the overhanging rocks, and with field glasses were sure we saw two eggs. The place itself was well marked by the white streaks of droppings down the side of the rock, and the birds manifested much anxiety when we were on the rocks above the spot. June 17 we thought we saw one near Log Cabin P. O., Larimer County.

29. *Falco sparverius phalæna*. Desert Sparrow Hawk. This was about the most common hawk met with. It was seen frequently between Colorado Springs and Ramah, and also between Godfrey and Deer Trail; near Briggsdale; northwest of Fort Collins; Home P. O.; Hell Creek; Lake John; near Mt. Zirkel; at Grizzly Creek, North Park; Steamboat Springs; and frequently along the road between that place and Golden, being decidedly common at times.

30. *Speotyto cunicularia hypogæa*. Burrowing Owl. This species was



Fig. 36. WESTERN NIGHTHAWK ON FENCE POST

seen rather frequently on the plains from near River Bend to a few miles northwest of Fort Collins. May 30 we dug out a nest, or rather the other two did, while I bossed. It was, as usual, in an abandoned prairie dog hole, and eight fresh eggs were found, being five feet in from the mouth of the burrow, and three feet below the surface of the ground. The female was captured on the nest.

31. *Ceryle alcyon*. Belted Kingfisher. The first seen was on a small stream between Livermore and Log Cabin; then near Home P. O.; at Chambers Lake; Walden; at the upper bridge on the North Platte; at Steamboat Springs and eighteen miles south; Grand River, twelve miles above Kremmling.

32. *Dryobates villosus monticola*. Rocky Mountain Hairy Woodpecker. One seen May 23 at Bijou Creek, one near Chambers Lake, one at our Cameron Pass camp, and at Buffalo Pass sawmill.

33. *Picoides americanus dorsalis*. Alpine Three-toed Woodpecker. Our best find in the way of birds was probably the family of this species we found close to our Buffalo Pass camp. They had a nest in a dead Engelmann spruce,

which was twenty-five inches in diameter at the base, and twenty at the nest hole, the latter being seven feet above the ground. The nest was eight inches deep, the entrance one and three-quarters inches in diameter; the thickness of the wood on the front side of the hole was two and three-quarters inches, and the cavity was five inches from front to back, and three wide. There were a few chips in the bottom, as well as a few of the birds' droppings. There were two young, about ready to fly, though I had no difficulty in posing them on the tree for pictures; they showed little or no fear. Before we opened the nest we used to see them come to the hole whenever we came close to the tree, and often saw the parents feeding them. The whole family was collected and is now in the Colorado College Collection. This woodpecker is not at all common in Colorado, and is confined to the forests at the higher elevations, but at the same time is probably widely distributed over the mountainous parts of the State. This is the second time I have met with it myself, the previous occasion being on the divide between Sapinero and Currecanti Creeks, Gunnison County, at 9350 feet altitude.

34. *Sphyrapicus varius nuchalis*. Red-naped Sapsucker. One was taken near our camp at Buffalo Pass sawmill, July 24. I thought I saw a female Williamson Sapsucker at the same place, but failed to secure it, so am not positive as to the identification.

35. *Melanerpes erythrocephalus*. Red-headed Woodpecker. Seen but a few times; at Cedar Point, at Fort Morgan, where a pair had a nest in a cottonwood stub near the fair grounds, at Fort Collins, near Golden, and at our very last camp at Arvada, just outside of Denver.

36. *Asyndesmus lewisi*. Lewis Woodpecker. But few were noted, eight or ten being seen May 22 between Elbert and Bijou Creek, and my notes say that though they presumably live in the pines, almost all of them were seen in the open country. One was seen near Log Cabin.

37. *Colaptes cafer collaris*. Red-shafted Flicker. Seen with some frequency, yet hardly as often as it should have been. It was noted at Bijou Creek May 22, where one had a nest, which, however, I did not investigate, near Briggsdale, at Fort Collins, and between there and Home P. O., at Chambers Lake, at the Cameron Pass camp, at Hell Creek, Buffalo Pass sawmill, Steamboat Springs, near Phippsburg, on the Berthoud Pass road and near Arvada.

38. *Phalaenoptilus nuttalli*. Poor-will. Two were seen at Cedar Point May 27.

39. *Chordeiles virginianus henryi*. Western Nighthawk. After seeing the first one near Mattison, May 24, Nighthawks were seen almost everywhere we went except at the highest elevations. The last was seen at Steamboat Springs, August 1, for we did not happen to note any after that. While in the plains region we often saw Nighthawks perched on fence posts, and I always tried to photograph such birds, but they would fly before I got quite as close as I wished. I persevered, however, and finally had my reward the afternoon of June 11, when one proved a most gratifying subject, allowing me to approach as close as I desired; as near in fact as I could go and focus my Graflex with a fourteen inch lens, and I could get nearly twenty inches extension the way I was using it. The bird even allowed me to crawl through a wire fence a few feet from the post it was on, so that I might have the light from the right direction. One could hardly ask more. We found several nests, or rather eggs; at

Walden, June 28, two eggs were found, and near our Hell Creek camp I flushed a bird from a single egg. She was very anxious about it, and I was able to secure a number of excellent pictures of her; this was July 3 and 4. Durand also found two eggs in another direction from the same camp. July 8 he found a single egg in the road or trail up which we had to drive to get to our Mt. Zirkel camp. July 17 we flushed the bird from the still unhatched egg.

40. *Aeronautes melanoleucus*. White-throated Swift. There was a small colony about the West Pawnee Butte. Durand saw eight or ten.

41. *Selasphorus platycercus*. Broad-tailed Hummingbird. First seen near Home P. O. At Chambers Lake it seemed rather common. It was frequently noted near our Mt. Zirkel camp, and was seen at Buffalo Pass and Steamboat Springs. Durand often said he heard Hummingbirds at various of our camps and elsewhere, without seeing them, but while I have no doubt that he was correct, I do not quite like to list them on such evidence alone. As for myself, my hearing is not good enough to be of any use in such cases.

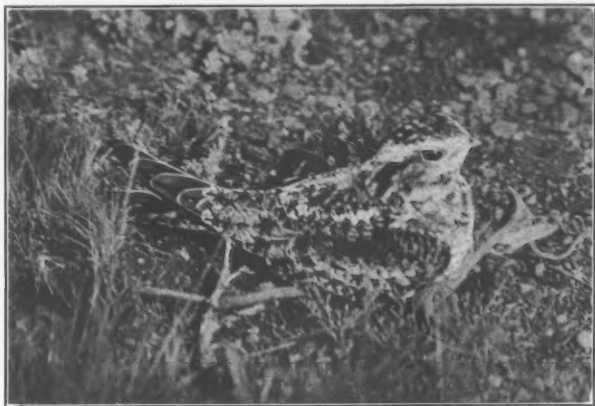


Fig. 37. WESTERN NIGHTHAWK ON THE GROUND

42. *Tyrannus tyrannus*. Kingbird. Seen rather frequently the first few days of the trip until near Simla, then at Cedar Point, and near Agate; next May 31, south of Fort Morgan. It was common at the latter place. It was not noted again until we neared Ault, and thence was quite common to Fort Collins, and beyond nearly to Log Cabin. After that we saw no more until the last two days of our journey, when it was fairly abundant from eight miles west of Golden to Arvada.

43. *Tyrannus verticalis*. Arkansas Kingbird. This species was observed at intervals from Elbert to Pawnee Buttes, where there was at least one pair hanging about our camp. I supposed they must have a nest in the creek bank somewhere, but could not locate it. It was very common at our camp near Briggsdale, and between Ault and Fort Collins. I have no further record of the bird until we reached Steamboat Springs, where it was common, and frequently noted along the road from there to beyond Coulter.

44. *Tyrannus vociferans*. Cassin Kingbird. This bird was observed exclusively on the Divide and on the plains, from East Bijou Creek to River Bend, and thence west to a little beyond Agate. The only other seen was several miles east of Ault.

45. *Sayornis sayus*. Say Phoebe. Seen at various places from Elbert to Fort Morgan. May 31, several miles south of the latter place, a nest containing five eggs was found in a vacant house by the roadside. Two were fresh, the others in an advanced stage of incubation. Another nest found the same day was under a bridge, and we could look into it through a crack between the planks; there were three newly hatched young and two eggs. At Pawnee Buttes there was a nest in a small cavity in the creek bank near our camp, and I found another containing four eggs which appeared to be perfectly fresh in the bluffs west of the Buttes, built under the overhanging rocks. The species was noted near Fort Collins, and not again until about ten miles above Kremmling.

46. *Myiochanes richardsoni*. Western Wood Pewee. At Fort Collins a pair had a half-finished nest in a willow overhanging our tent. At Steamboat Springs there was a nest in a cottonwood close to the camp; this contained well grown young, and we saw the parents feed them. Durand climbed up with the camera, and the three youngsters scrambled out. Later we caught one and photographed it. It could not quite fly. This was July 28.

47. *Empidonax trailli*. Traill Flycatcher. Taken near Log Cabin. It seemed to be common at Chambers Lake, and also at our Cameron Pass camp. It was also noted at the Buffalo Pass sawmill.

48. *Otocoris alpestris leucolæma*. Desert Horned Lark. Horned Larks were common everywhere from Colorado Springs to Fort Collins, and were often about the only birds to be seen on the high prairies between Deer Trail and Fort Morgan and the latter place and Pawnee Buttes. A good many well grown young were seen May 23 and 24; one just able to hop around seen May 31, and a very small one June 3; June 11 a few well grown young were seen. That day we often saw birds sitting in the shadow of a fence post out of the sun. In North Park the species was first met with eight miles south of Walden, and was common at that place, where young able to fly were seen June 28. It was abundant on the sage brush plains of the Park. Near Lake John, July 5, we found a young bird, able to run, but not to fly. The species was observed on an Alpine plateau on Mt. Zirkel at 11,500 feet. It was seen near Toponas and Troublesome Creek.

49. *Pica pica hudsonia*. Magpie. Magpies were seen from Colorado Springs to near Ramah; none were noted after that until going west from River Bend, when some were seen near Agate. Durand saw one at Fort Morgan. The species was observed near Fort Collins, and beyond as far as Log Cabin. In the North Park it was seen south of Walden and was common at that place; it was noted at two or three camps on the west side of the Park. We saw it at Steamboat Springs, and noticed it frequently along the road between there and Denver.

50. *Cyanocitta stelleri diademata*. Long-crested Jay. Seen but a few times: once in the pines on the Divide, then near Home P. O., near the Buffalo Pass sawmill, Steamboat Springs, and between Idaho Springs and Golden.

51. *Perisoreus canadensis capitalis*. Rocky Mountain Jay. As was to be expected, seen only in the mountains; first on the Park side of Cameron Pass; then near Hell Creek. At the Mt. Zirkel camp several came about for scraps, but were rather shy. It was about the Buffalo Pass camp.

52. *Corvus corax sinuatus*. Raven.

53. *Corvus brachyrhynchos*. Crow. Durand and I could never agree as to the identity of certain birds we saw at Walden, near the North Platte River, and at Lake John. He was quite positive they were Crows, but I am sure that some, at least, were Ravens. But we did run across a flock of birds July 5, while driving from Hell Creek to Lake John, which may have been Crows; they were rather small for Ravens, and there were more together than one often sees of that bird. We were unable to secure any specimens of these or any of the others we saw. Mr. E. N. Butler of Walden, who has resided in the North Park many years, told me he could not recall ever having seen Crows in that region.

54. *Nucifraga columbiana*. Clarke Nutcracker. Seen twice on Mt. Zirkel.

55. *Molothrus ater*. Cowbird. Noted at Elbert, Bijou Creek, between Ault and Fort Collins, and west of the Forks P. O. Seen south of Walden, and was very common at that place. Was at the North Platte, and between there



Fig. 38. WESTERN NIGHTHAWK ON FENCE RAIL. Figs. 36, 37, AND 38 SHOW CHARACTERISTIC NIGHTHAWK POSES

and Lake John. Later it was observed at Troublesome Creek and Fraser.

56. *Xanthocephalus xanthocephalus*. Yellow-headed Blackbird. First noted a few miles east of Fort Collins, and then a little way west of there. There were some at Walden. The patch of rushes in Lake John was alive with the birds, and we found many nests with from one to four eggs; one set of the latter number was collected and proved to be well incubated. In one nest we found a just-hatched young bird, an egg of the ordinary size, and runt egg half the size of the other. At our second stay at Walden one was noted feeding about our horses, at camp, in company with Brewer Blackbirds. After leaving the Park no more were seen except once about ten miles south of Steamboat Springs.

57. *Agelaius phoeniceus fortis*. Thick-billed Redwing. Observed at various places on the Divide and thence to River Bend, wherever there was a stream or waterhole. May 29, at a slough a mile or so west of Agate, Rockwell found a nest with three eggs, and one with four. It was at Big Muddy and



Badger Creeks, and at Fort Morgan. Observed near Briggsdale, and common between Ault and Fort Collins. Was at the latter place and thence as far as Elkhorn. There were a few about Walden, and we noted it about the streams and flooded meadows in those parts of the North Park which we visited. It was seen south of Steamboat Springs and at Troublesome Creek.

58. *Sturnella neglecta*. Western Meadowlark. Frequently observed from Colorado Springs to Home P. O. At Elbert, May 20, I heard it singing when it was snowing and blowing hard. June 11 we found a nest containing four eggs about five miles southwest of Briggsdale. The bird must have sat very close, for we were fooling around close to the nest some time before she flushed. In the first place I photographed a two-thirds grown cottontail, and when it started to run Durand shot it, as we needed it for supper. It had hardly been picked up when we discovered a very small one, about as big as one's fist, squatting in the very same place where the other had been. Of course it had to be photographed, and when it had left that place I followed it about trying for more pictures, as it seemed absolutely devoid of fear. It was not until this was all over that the Meadowlark flushed, a few feet from where the rabbit had been. Meadowlarks were common at Walden, and almost everywhere we went in the Park, except of course on the mountains. It was seen at Steamboat Springs, and often between there and Arvada.

59. *Icterus bullocki*. Bullock Oriole. Seen at Bijou Creek, Cedar Point, and Fort Morgan, where it was nesting. It was noted at Wild Cat Creek, north of Fort Morgan, Fort Collins, and Steamboat Springs.

60. *Euphagus cyanocephalus*. Brewer Blackbird. Often seen between Colorado Springs and Elkhorn. After that not again until about fifteen miles south of Walden, and was common there and everywhere else in the Park. At Lake John, July 5, females were seen carrying food in their bills. At Walden, July 19, these birds were going about in flocks, showing that the breeding season was over and the young out of the nests. It was the most common blackbird at that place, with the Cowbird second. It was noted at Steamboat Springs, and thence as far as Vasquez.

61. *Carpodacus cassinii*. Cassin Purple Finch. Seen but once, three or four miles south of Yampa.

62. *Carpodacus mexicanus frontalis*. House Finch. Seen at Bijou Creek and at Fort Collins.

63. *Leucosticte australis*. Brown-capped Rosy Finch. Seen on the high mountains about Cameron Pass, and was common about Mt. Zirkel, near and above timberline.

64. *Astragalinus tristis*. Goldfinch. Seen at Bijou Creek and Fort Morgan.

65. *Spinus pinus*. Pine Siskin. Seen at Bijou Creek, Cedar Point, near Elkhorn, at Mt. Zirkel camp, and north of Kremmling.

66. *Passer domesticus*. House Sparrow. Noted at Elbert, Fondis, Ramah, Simla, River Bend, at two or three ranches between Deer Trail and Fort Morgan, and at the latter place, Keota, Briggsdale, and at ranches between there and Ault, and at that town, at about every ranch between there and Fort Collins, and at Fort Collins of course, at Walden, Steamboat Springs and Yampa.

67. *Poecetes gramineus confinis*. Western Vesper Sparrow. Common from Colorado Springs to Godfrey; then noted between Forks and Log Cabin;



below the Cameron Pass Camp; common in the sage brush in the North Park. June 30, between Walden and Hell Creek, a good many young were seen just able to run about; and July 5, while driving from the last-named place to Lake John, more were seen, including one which was captured and photographed. At Lake John I found near our camp a nest with three fair-sized young; going there the next day with the camera I found the nest empty, but a garter snake was found with a suspicious swelling in its middle, and executed. I meant to have killed it so as to have preserved it for a specimen, but forgot myself and blew its head off. At the same locality, July 7, a nest with four small young was found. It was at Steamboat Springs, and often seen between there and Arvada.

68. *Passerculus sandwichensis alaudinus*. Western Savannah Sparrow. Seen at Walden; at the upper and lower bridges over the North Platte; about the meadows at Hell Creek. At various times small sparrows were seen about the flooded meadows in the Park, which were no doubt this species, but the super-

abundance of mosquitos in those places did not encourage one to investigate very closely.

69. *Chondestes grammacus strigatus*. Western Lark Sparrow. Seen near Fondis, at River Bend and Cedar Point. At the latter place, May 27, while the birds seemed to be mated, they were not yet nesting. It was noted a few times between River Bend and Deer Trail, and then at Fort Morgan, Wild Cat Creek, Pawnee Buttes, and from there to Fort Collins, and thence to near Log Cabin. Seen several times between Steamboat Springs and Toponas, and near Golden.

70. *Zonotrichia leucophrys*. White Crowned Sparrow. First seen at Chambers



Fig. 39. NEST OF THE WHITE-CROWNED SPARROW; MOUNT ZIRKEL, 10500 FEET, JULY 11, 1911

Lake, and was rather common at the Cameron Pass Camp. It was common about Mt. Zirkel, where it ranged at least to timberline. July 11 we found a nest containing four eggs in a scrubby spruce at an altitude of 10,575 feet, just below timberline. An odd thing about this nest was that the day before we had set a mouse trap on the ground almost directly under the nest, and tied the marker to the bush over it. The bird must have flushed then without being noticed, or else was not sitting, and the nest itself was well hidden. She was on the nest and flew off the day we discovered it. The nest was about two feet above the ground, and built mostly of fine grass. The species was noted at the Buffalo Pass saw mill, where it was quite tame and familiar, and was also at Buffalo Pass. Seen several miles south of Yampa, at Rock Creek on the Gore Pass road, east of Coulter, and on Vasquez Creek.

71. *Spizella passerina arizonæ*. Western Chipping Sparrow. May 19

to 22 this species was common in the pines on the Divide, and about Elbert. Seen about fifteen miles south of Walden, and about the Buffalo Pass saw mill. It was also noted west of Golden. These seem very few notes for this common species, and I hardly know how to account for it.

72. *Spizella breweri*. Brewer Sparrow. Two or three were seen between Fondis and Ramah, and I thought I saw one near Pawnee Buttes. It was a common bird in the sage brush in the North Park, being observed everywhere we went. June 26 a nest with four eggs was found in a greasewood bush near Walden; the eggs seemed to be somewhat incubated, and the nest was empty when visited July 18. Another with four eggs was found at Lake John, July 6; these were but slightly incubated, as I found by dropping one while examining it. Durand found a nest with three eggs at Walden, July 21. The species was observed at Steamboat Springs and south of there as far as Toponas, where we turned off into the mountains.

73. *Junco phæonotus caniceps*. Gray-headed Junco. Seen at my first camp on the Divide, about four miles west of Eastonville, May 19; between Log Cabin and Elkhorn; Chambers Lake; west of Cameron Pass; fifteen miles south of Walden; Hell Creek; about Mt. Zirkel; near Buffalo Pass saw mill; Buffalo Pass; Gore Pass; east of Coulter; and in pines about ten miles west of Golden.

74. *Melospiza melodia montana*. Mountain Song Sparrow. Noted at Elkhorn. A little below the Mt. Zirkel camp a nest with four eggs was discovered July 9. It was on the ground in a tuft of bunch grass; from the actions of the bird I am inclined to think the eggs were well incubated. One was seen at Buffalo Pass, one at Steamboat Springs, and one a few miles south of Yampa.

75. *Pipilo maculatus montanus*. Mountain Towhee. One seen near Log Cabin, and several in the foothills west of Golden.

76. *Oreospiza chlorura*. Green-tailed Towhee. Seen May 19 on the Divide; at Bijou Creek; near Log Cabin and between there and Elkhorn; near Hell Creek; near Mt. Zirkel; at Grizzly Creek; Steamboat Springs; south of there to Toponas; above Kremmling; near and below Empire.

77. *Zamelodia melanocephala*. Black-headed Grosbeak. Observed at Fort Morgan and Ault.

78. *Passerina amœna*. Lazuli Bunting. Seen west of the Forks, June 15.

79. *Calamospiza melanocorys*. Lark Bunting. This species was first noted May 19 on the Divide, when a few were seen. None were seen after that until about two miles east of Fondis, when it became common. It continued so practically everywhere until after passing the "Forks" in Larimer County, except that I saw none on Cedar Point, though it was on the prairies below. On the high prairie country between Deer Trail and Pawnee Buttes this species and the Horned Larks were often the only birds seen, and the latter were the more abundant. It was seen near Walden. Near Sidney P. O., Routt County, August 2, I shot a male Lark Bunting which is a peculiar partial albino. At first sight I took it for a Bobolink, for which I had been watching all the morning, as I had found them along that road four years before. The wing patches are normal in extent, but much tinged with rusty, and the feathers of the back and upper wing coverts are edged with the same. The tail is decidedly rusty. Below the bird is about equally black and white, these colors, however, being unevenly distributed, and presenting rather a curious appearance. Also noted near Yampa.

80. *Piranga ludoviciana*. Western Tanager. For some reason but a single specimen of this species was seen the whole trip, at Elbert.

81. *Petrochelidon lunifrons*. Cliff Swallow. Observed near Elbert, at River Bend, Cedar Point, Lowland, between Raymer and Pawnee Buttes, and at the latter place, where, as noted in the introduction, there was a colony having nests in the bluffs along the creek. Seen near Ault, Fort Collins, and west of there to a little beyond Home P. O. Was common at Walden and other places

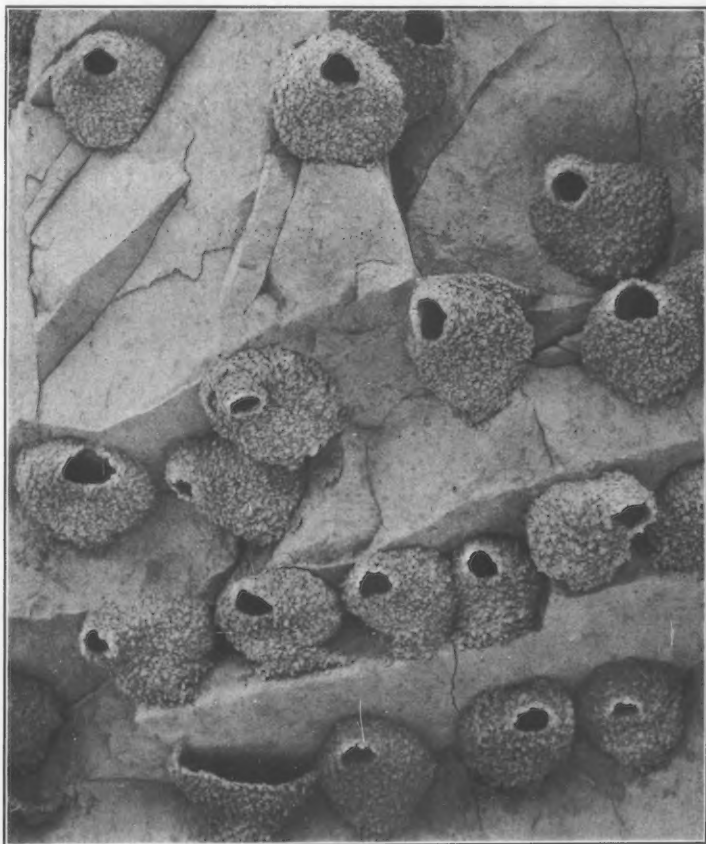


Fig. 40. PORTION OF THE CLIFF SWALLOW COLONY AT PAWNEE BUTTES

in the North Park. July 5, when we passed the High schoolhouse, near Lake John, we saw a colony having nests under the eaves of the schoolhouse. I counted fifty-seven on the west side of the building, and there were many more on the other. When we passed there again July 17, we found the nests had all been destroyed, presumably by some fool who held the ridiculous belief that the birds harbor bedbugs. There were millions of mosquitos on which the birds were

feeding, and one would have thought it wiser to take chances on the bugs, and let the swallows eat the other insects. Seen at Steamboat Springs and south of there. August 3, about three miles south of Phippsburg, I saw a flock which must have consisted of several hundred birds. At one time most of them perched on some service berry bushes, which they almost covered. A good many were seen at Kremmling. A few nests were seen on rocks in a railroad cut just outside of Sulphur Springs. Noted at Fraser, and west of Golden.

82. *Hirundo erythrogastra*. Barn Swallow. Seen north of Colorado Springs near Elbert; Bijou Creek; Simla; between Big Muddy Creek and Fort Morgan; near Ault; between there and Fort Collins; at that town and occasionally from there to near Elkhorn; ten miles south of Walden, and at that place; at the North Platte River; Hell Creek; near Phippsburg and Coulter.

83. *Tachycineta thalassina lepida*. Violet-green Swallow. First observed at Chambers Lake, where it was common, as also on the North Park side of the Cameron Pass, and along the road to Walden. It was at Hell Creek and seen flying at high altitudes about Mt. Zirkel. Noted at Buffalo Pass saw mill. Near Steamboat Springs, July 28, I saw one enter a hole in a dead aspen by the roadside; presumably it had young there. Observed at Steamboat Springs, and at various places between there and Coulter.

84. *Lanius ludovicianus excubitorides*. White-rumped Shrike. Noted eight miles west of Elbert. At Bijou Creek, May 22, I found a nest containing five eggs in a willow. Seen frequently between Bijou Creek and Simla, and was at Cedar Point. A few miles west of Agate we found a nest with five fresh eggs; this was also in a willow. Seen near Fort Morgan, and at that place Durand discovered a nest with seven eggs; this was in a cottonwood on the fair grounds. Noted about eighteen miles south of Steamboat Springs; on Toponas Creek, and near Coulter.

85. *Dendroica æstiva*. Yellow Warbler. Seen west of the "Forks"; above Home P. O.; at our Cameron Pass camp; Lake John; at Steamboat Springs it was common about our camp, which was among the cottonwoods by the river; seen at Troublesome Creek.

86. *Oporornis tolmiei*. MacGillivray Warbler. One seen at Cedar Point, May 27.

87. *Wilsonia pusilla pileolata*. Pileolated Warbler. One taken at Chambers Lake.

88. *Anthus rubescens*. Pipit. Seen on the mountains about Cameron Pass, June 23; I thought from their actions they were but just mated. It was common about Mt. Zirkel, where, on July 11, I saw one with an insect in its bill, and acting as if it wished to feed its young, but it would not go to the nest while I was about. One seen at Buffalo Pass.

89. *Cinclus mexicanus unicolor*. Water Ouzel. Seen near the Cameron Pass camp; in Red Canyon; at Steamboat Springs, in Fish Creek; and in Vasquez Creek.

90. *Oreoscoptes montanus*. Sage Thrasher. This bird was abundant everywhere in the sage brush in the North Park. The young seemed to be about. July 18. It was at Steamboat Springs, and often seen between there and Vasquez.

91. *Mimus polyglottos leucopterus*. Western Mockingbird. Two were seen at Cedar Point; Rockwell saw one at a slough a mile or so west of Agate; one was noted at a ranch north of Big Muddy Creek; it seemed to be common at

Fort Morgan, where there was a nest on the fair grounds, which had three eggs June 2; it was noted at Wild Cat Creek and near Briggsdale.

92. *Dumetella carolinensis*. Catbird. Observed at Fort Collins; between the Forks and Log Cabin; and about twelve miles south of Steamboat Springs.

93. *Toxostoma rufum*. Brown Thrasher. One seen at Wild Cat Creek.

94. *Salpinctes obsoletus*. Rock Wren. Seen at Elbert; Cedar Point, where it was common, as also at Pawnee Buttes; near Log Cabin; Lake John; near Empire and below there, quite frequently.

95. *Troglodytes aedon parkmani*. Western House Wren. Noted at Bijou Creek; between Log Cabin and Elkhorn; Hell Creek, where one was seen carrying an insect in its bill, but would not go to its nest while we were about; Buffalo Pass saw mill; Steamboat Springs, where one came about camp and investigated the wagon, crawling about everywhere underneath the box. While



Fig. 41. NEST OF MOUNTAIN BLUEBIRD, PLACED IN AN OLD MAIL BOX

stopping for lunch August 2, about twelve miles south of Steamboat Springs, we saw a Wren carrying insects into a hole in an oak fence post. The hole was so small we could not make out what was inside, but no doubt young birds.

96. *Sitta pygmaea*. Pygmy Nuthatch. Seen in the pines about four miles west of Eastonville.

97. *Penthestes gambeli*. Mountain Chickadee. Seen at Hell Creek, Buffalo Pass saw mill, and Steamboat Springs.

98. *Regulus calendula*. Ruby-crowned Kinglet. Durand collected a pair at Chambers Lake, and a young of the year at Buffalo Pass saw mill; seen at Mt. Zirkel camp; near Buffalo Pass I saw a little troop of them which seemed to be a family party, parents and young.

99. *Myadestes townsendi*. Townsend Solitaire. Observed near Hell Creek and about Mt. Zirkel.

100. *Hylocichla ustulata swainsoni*. Olive-backed Thrush. Seen at Buffalo Pass saw mill.

101. *Hylocichla guttata guttata*. Alaska Hermit Thrush. One seen at Bijou Creek, May 23.

102. *Hylocichla guttata auduboni*. Audubon Hermit Thrush. One seen at the saw mill at Hell Creek.

103. *Planesticus migratorius propinquus*. Western Robin. From Colorado Springs to Simla, Robins were often seen; then no more were observed until near Fort Collins, when it again became common, and continued more or less abundant from there on everywhere we went. At Mt. Zirkel it was seen at 9500 feet, and I found a nest with four eggs near camp, July 12. It was seen at Buffalo Pass. A few miles below Empire we found a fully fledged young one which seemed disabled, and an examination showed its throat to be injured, apparently by flying against a wire. It seemed unable to stand up, and fluttered about; I am doubtful if it survived its hurt.

104. *Sialia mexicana bairdi*. Chestnut-backed Bluebird. Several seen west of Eastonville, on the Divide.

105. *Sialia currucoides*. Mountain Bluebird. Often seen from Colorado Springs to Simla; after that none until after passing Log Cabin, and that morning, June 17, a nest containing four eggs in an advanced stage of incubation, was found in an old mailbox at the top of the Pingree Hill. The female belonging to this nest was secured, and was a partial albino, having white cheeks and nape. The species was common all through the North Park; at Walden, June 27, I saw three young just from the nest. At Mt. Zirkel they were seen above timberline, and were common at Buffalo Pass. Noted at Steamboat Springs, and frequently from there to Arvada.

#### AN AFTERNOON'S FIELD NOTES

By J. GRINNELL

THE following excerpt from my private field note-book for the year 1907, is transcribed exactly as originally written, save for minor corrections in punctuation and spelling. These notes were written "on the spot" from time to time during the three or four hours of observation. They show the nature of a certain type of field observations, how these may be recorded in a running narrative style, and there is perhaps some information presented of general interest to the student of living birds.

The experienced observer will probably criticize the method of record, at least, while the beginner may find something worth while adopting. One principle, however, the writer is particularly sure of; namely, that a card-system for immediate record of field-notes is absolutely impracticable. I hasten to assure the reader that I am responsible for a rather elaborate card-system adopted for the cataloging of a museum's collections, and for bibliographic purposes. But this or any other modification of the card-system I have ever seen has its limitations, and to my notion is wholly out of place when it comes to putting into black-and-white facts as gathered in the field. It is quite possible to copy and assort these latter by any kind of system; but the greatest value, because of the element



of first-hand precision, will always lie in the original record. No matter what plan of indexing the information therein contained, may be subsequently put into effect, my original narrative notes are always retained intact, and preserved with the greatest solicitude.

Glendora, Los Angeles County, California, May 5, 1907; 12:45 P. M.—I am alone on the back end of S. W. Wood's orange ranch at the edge of a waste acre or so of land near the Little Dalton which is still running quite a stream. I just saw a Black-chinned Hummer episode: I first saw a female pursued by a male into a thick low bush, where she alighted completely hidden. The male then proceeded to buzz back and forth before her within three feet of her, in the arc of a pendulum of not more than three feet chord. At the same time he uttered a deep buzz augmented at the middle of the swing. After about twenty of these swings, each occupying one second, he mounted up in the air about fifty feet and dove down in a far larger pendulum swing, arising to an equal height on the other side to repeat. At the bottom of the swing he uttered an augmented metallic quavering rattle. After repeating this maneuver twelve times he made off to a nearby *Nicotiana* where he fed from the pendant blossoms without further interest in the female, whom I lost sight of.

12:55—I am in sight of a male Valley Quail stationed about ten feet up on the topmost strong-enough branch of a *Nicotiana*. He is "hollering", the single loud yell, like a child's shout at a distance. Two other quail, one up, the other down the Dalton, are answering at intervals. I have not heard the regular quail-call of three syllables. The quail that I am watching "hollers" at following intervals: 1-3-3-6-4-6-5-12-5-5-5-6-8-10-3-9-7-4-9-8-6-13-3-5-4-5-9-7-5-6-9-5-5-6-5-6-9-5-5-7-4-8-7-7-6-11-6-8-4-4-3-6-7-5. In the above, the dashes represent the call, the numeral the number of seconds, by my watch, intervening. The other two quail have been calling at very similar intervals, and all have been keeping up the performance since 12:55 (it is now 1:7).

1:13—There is a profusion of a tall maroon-colored *Pentstemon*. Just saw a male Black-chinned Hummer rapidly visiting each flower around a spike. A male Lazuli Bunting is singing its hurried shrill song from the top of an oak. The bird is about seventy feet from me in an air line, perched composedly in a hunched-up attitude. He sings at following intervals (seconds):—10-18-15-13-11-12-10-11-11-13-19-11-12-13-13-12-11-9-12-13-13. A Long-tailed Chat is singing from the brush along the creek, his rambling incoherent series of whistles, chucks and squawks.

1:25—The quail is still at it. I heard him make several explosive sounds a while ago like a turkey gobbler. These were uttered in rapid succession in sputtering fashion. A male Costa Hummingbird just flew close to me, feeding about the *Pentstemons*. A male Pileolated Warbler is investigating a pile of weed-overgrown orange brush nearby. All the vegetation is very rank, weeds growing up as high as my head on undisturbed ground.

1:33—A male Costa Hummer was just going through his mating performances; and I am not at all sure there was any female beneath to warrant the energy spent. He mounted up, slowly rising to fully 200 feet (almost out of sight), then swung down with marvelous swiftness nearly to the ground (1½ feet I should say), rising up more slowly to an equal height to repeat. In his downward swoop he uttered a swelling shrill note of piercing quality and continuous of tone, this dying out on the upward part of the swing. He repeated this



performance about fifteen times before going off to perch and preen himself on a *Nicotiana*.

1:42—Four White-throated Swifts just flew dizzily past high overhead, twittering violently as is their wont. Two clashed and fell, fluttering for what looked like several hundred feet. Another attached itself to the nucleus and all fell till I thought they would descend clear to the ground. But they separated in time to each dart off on his separate way. A male Costa Hummer is very diligent at the *Pentstemons*. In three cases he sipped at every one of the open flowers on each spike—6, 6, and 12—then sipped at one blossom of another spike and flew off. Several pairs of Lawrence Goldfinches are about with their wheezy notes. Also a pair of Willow Goldfinches (male not perfectly yellow, though fairly bright, but in full song), and lots of Green-backed Goldfinches.

1:56—I have moved across the waste lot about one hundred yards, and am seated on a stone-pile by the creek, with a walnut (*Juglans californica*) fifty feet away, several clumps of *Nicotiana* and some poison-oak thickets nearby. A *Psalidna* Thrasher is watching me from a *Nicotiana* 150 feet upstream. It has been bathing and is preening and shaking itself violently. There are several pairs of Willow Goldfinches drying themselves in the walnut and bushes nearby. Goldfinches seem more than most other birds to enjoy bathing; this in spite of its being a sunless day, dense high fog with even an occasional drizzle. A Black-headed Grosbeak has been singing from the walnut almost continuously since one o'clock. They are by far the most voluble singers of all the birds within hearing. Perhaps the Green-backed Goldfinches come in next. I have seen and heard both the Bullock and Arizona Hooded Orioles in the vicinity. This location is too near the noisy brook for hearing birds, so I will move back to the other edge of the waste lot.

2:10—Just got an eight-foot view of a female Costa Hummer, at *Nicotiana* flowers. A flock, of separate pairs, mostly, of all three species of goldfinch are feeding in a rank patch of *Amsinckia*, evidently shelling out green seed pods at the bases of the flower spikes. There are at least two Long-tailed Chats singing, but I have only gotten a fleeting glimpse of one as it flushed from a brush pile. Just saw a Golden-crowned Sparrow.

2:25—I just got a good view (twenty feet) of a Lincoln Sparrow in a pile of dry orange trimmings. I saw probably the same bird a few minutes ago in the green weeds under the walnut by the stream. A Least Vireo has been in the oak or around the brush patch all the afternoon. It only sings occasionally, uttering its brief song three to five times, at intervals of five seconds or so. The "theme" is uttered with rising inflection, as if asking a question; then, with a falling inflection, as if replying. These two kinds of notes are uttered alternately. Each "theme" is a warbling jumble of vireo notes uttered hastily, with no care in pronunciation. The rising and falling inflections in alternate themes is the best character of the song. One of the Chats is singing now in plain view on a *Nicotiana* one hundred feet away. Song intervals: w 5 ch 4-w 6-3 ch 4 w 7 ch 3 w 5 ch 5 ch—it's hard to time the chat's song; the whistle (w) most always alternates with some sort of a chuck (ch). I should judge the intervals between the individual notes to average four seconds. He has been singing thus for fully five minutes. Sometimes a whistle is of four clear notes each with falling inflection and close together, very similar to a boy calling his dog; others are single clear whistles, loud and of carrying quality; then the chucks are, some, like a Parkman Wren

call note, others like the hoarse chuck of a mockingbird—very hard to describe! A while ago the chat flew up through the air fifty feet or so, singing, with peculiarly drooping and flopping wings. I am sure a pair of Wren-tits have a nest nearby. Also a pair of Bush-tits, the latter probably in the oak, where I have seen them fly several times. Two Western Wood Pewees are about, one frequently in full pursuit of the other with loud snapping of bills, and muttered notes. A Turkey Buzzard is circling overhead. Just watched a female Green-backed Goldfinch laying the first foundation material for a nest five and one-half feet up in a tall weed (*Malva?*).

2:55—Just located the Bush-tit's nest. It is of usual style, six feet up in outer lower drooping oak branch; contained five half-grown young whose claws were clinched together tightly through the material of the nest bottom, and could only be pulled out by pulling the feathers, etc., to which they clung. No wind could dislodge them without tearing the nest to shreds first. The youngsters twitter loudly in chorus when a parent enters the nest with food.

Later—A pair of Mourning Doves have been feeding on the croquet ground by the Wood's house. I saw a Hammond Flycatcher perched on a stake in the reservoir, and another in the orchard. Also two Black Phoebe's, and a female Yellow Warbler. At least three Phainopeplas are among the olives and pepper trees along the street. Have also seen about the ranch: Western Lark Sparrow, lots of Linnets, Mockingbirds, Western Chipping Sparrows, and Anthony Towhees.

## FROM FIELD AND STUDY

### Some Changes and Additions to the List of Birds of Southwestern Montana.—

Owing to the fact that I neglected to have several bird-skins, collected in Southwestern Montana, properly identified until recently, I have one correction and one addition to make to my list in the last number of THE CONDOR. An adult male Red-winged Blackbird collected in the Silver Bow marshes, May 21, 1911, has been identified by Dr. L. B. Bishop as the Northwestern Redwing (*Agelaius phoeniceus caurinus*). He states that it agrees exactly with skins in his collection from the coast of British Columbia. This is all the more surprising because of the fact that I had every reason to believe it to be a breeding bird. I found several nests containing both eggs and newly hatched young in the Silver Bow marshes on the day this bird was secured. Since it is the only one of this species that I have taken in that part of Montana it leaves the breeding form of Redwing there in considerable doubt until more conclusive evidence can be obtained.

An adult female Junco, taken on Clear Creek, Deer Lodge County, October 9, 1910, Dr. Bishop identifies as the Oregon Junco (*Junco hyemalis oregonus*) stating that it is an unusually high-colored specimen even for that race. I had rather suspected that this form occurred among the migrant Juncos of western Montana for some time, but this is my first opportunity to prove it. I confidently believe that more extended collecting will prove it of regular and not rare occurrence.—ARETAS A. SAUNDERS.

**Migration of White-necked Ravens.**—This past winter has been unusually cold and as a result there has been an utter absence of White-necked Ravens (*Corvus cryptoleucus*). Those from this section (Cochise County, Arizona) migrated in one immense flock the second Monday in last November. This flock extended over a distance of nearly three miles along the foot hills of the Dragoon Mountains near Gleason in this county. There did not seem to be any regular flight, but a sort of general slow movement to the south. The birds were present in many thousands and it was two days before the last stragglers disappeared. A few are now back again, the first being seen on the 22nd of February.

What few American Ravens I know of in this section did not share in the migration but were present in their usual haunts all winter.—F. C. WILLARD.

**The Western Marsh Wren Wintering Near Helena, Montana.**—On March 12, 1911, I observed a Marsh Wren (*Telmatodytes palustris plesius*) in cattail marshes near Helena, Montana. I both saw this bird closely and heard it sing several times, so that I feel certain of its species, though I was unable to secure it. This was in the same locality in which I found the Virginia Rail a few weeks before, reported in *THE CONDOR*, XIII, p. 108. Since the spring migration had barely started, only the Mountain Bluebird and Desert Horned Lark having arrived at that date, it is reasonable to suppose that the Wren was not a migrant but had spent the winter there. Wilson Snipe and a Virginia Rail were again observed there on this date.—ARETAS A. SAUNDERS.

**Who Will Save the Band-tailed Pigeon?**—Band-tailed Pigeons (*Columba fasciata*) were abundant this winter from Paso Robles south to Nordhoff all through the coast range of mountains. One hunter from Los Olivos shipped over 2,000 birds to the San Francisco and Los Angeles hotels.

The morning train from San Luis Obispo to Los Olivos on Sundays averaged 100 passengers who came to hunt pigeons. A prominent hunter told me that these passengers averaged about thirty birds apiece per day. This would make this one day's excursion over 3,000 pigeons. Now!—this is only one train and one day's hunting. One can hardly calculate the number of birds killed by hunters in automobiles and those who started from Los Angeles, San Francisco, Santa Barbara, Ventura, Santa Maria, Paso Robles, Lompoc and other small towns.

The writer, who is in the gun and ammunition business, was thoroughly disgusted with the game hogs who simply shot pigeons for the sport (?) and could not even eat them all. It is a shame that something is not done for these beautiful birds, which are doomed to follow in the footsteps of the Passenger Pigeon. I honestly believe that the people will never again see such a flight of Band-tailed Pigeons. In Nordhoff it is the largest they have ever seen, and the birds evidently hung around until they were simply shot out. This same state of affairs is probably true in other localities.

If something is not done very quickly these birds are doomed; for any bird that flies in such flocks is bound to be exterminated. What can be done?—W. LEE CHAMBERS.

**Two New Birds for Colorado.**—I wish to record two more species of birds new to the State of Colorado.

First, the Lapland Longspur (*Calcarius lapponicus lapponicus*). Two of these birds were taken December 28, 18 miles northeast of Denver; one of them identified by Mr. Oberholser.

Second, the Sierra Hermit Thrush (*Hylocichla guttata sequoiensis*). Four of these birds have been taken in Colorado and three of them identified by Mr. Oberholser. One was taken on the Arkansas River, May 16, near Holly; one taken near Golden, May 2, and the other two taken west of the range near Granby on October 7, thus proving that they sometimes pass through Colorado both fall and spring.

All of the above are in the collection of the Colorado Museum of Natural History.—L. J. HERSEY.

**A Correction.**—My attention has recently been called to the fact that I recorded the Savannah Sparrow (*Passerculus sandwichensis savanna*) in my list of birds of South-western Montana in the January, 1912, number of *THE CONDOR*. This is an error for which I am unable to account. The list should read *Passerculus sandwichensis alaudinus* (Western Savannah Sparrow).—ARETAS A. SAUNDERS.

# THE CONDOR

A Magazine of  
Western Ornithology  
Published Bi-Monthly by the  
Cooper Ornithological Club

J. GRINNELL, Editor, Berkeley, California

HARRY S. SWARTH, Associate Editor

J. EVGENE LAW }  
W. LEE CHAMBERS } Business Managers

Hollywood, California: Published May 15, 1912

## SUBSCRIPTION RATES

One Dollar and Fifty Cents per Year in the United States, Canada, Mexico and U.S. Colonies, payable in advance  
Thirty Cents the single copy.

One Dollar and Seventy-five Cents per Year in all other countries in the International Postal Union.

Claims for missing or imperfect numbers should be made within thirty days of date of issue.

Subscriptions and Exchanges should be sent to the Business Manager.

Manuscripts for publication, and Books and Papers for review, should be sent to the Editor.

Advertising Rates on application.

## EDITORIAL NOTES AND NEWS

Avifauna number 7 is in galley proof, and with fair luck should be off the press ready for distribution to Cooper Club members by August first. The subject of this paper is "The Birds of the Pacific Slope of Southern California." It consists of concise statements of seasonal and geographical distribution, nesting time and manner of nidification.

Mr. W. Leon Dawson is in the field in San Luis Obispo County, doubtless successful in securing photographic studies of certain Raptores necessary to the completeness of his "Birds of California."

The Museum of Vertebrate Zoology of the University of California is represented in field exploration this year as follows: Mr. H. S. Swarth and Mr. H. A. Carr are at work in Owens Valley, with base stations at Lone Pine, Keeler and Independence, successively. Mr. W. P. Taylor and Mr. F. H. Holden (to be succeeded later by Mr. T. I. Storer) are tracing out the distribution of certain rodents in the Sacramento Valley. Mr. J. Grinnell, in company with Mr. J. S. Hunter, an agent of the State Fish and Game Commission, is investigating the status of game animals in the mountainous region of Santa Barbara, Ventura, and Kern counties. All this season's work is thus within the State of California.

## COMMUNICATION

EDITOR OF THE CONDOR:

Mr. H. S. Swarth in his review of my

"Monograph of the Broad-winged Hawk" feels that a few points, which he cites, could have been made more clear and explicit. In justice to my work, I would state that the evidence presented under the head of "Local Distribution" gave me no choice other than the restriction of the summer range of *Buteo platypterus platypterus* "south to Florida and Central Texas." Though Zeledon briefly states that it "breeds" in Costa Rica, and I have faithfully transcribed the comparative description and position of the nest in Central America according to Salvin and Godman, I can find no specific record of its breeding, or the capture of the bird in the breeding season, south of the line given.

Sometime before I had decided to insert a name for the small, dark Cuban bird, with the heavily banded thighs and wing lining, the entire manuscript was ready for publication, too late to upset the entire plan of the work. Also, I feel that I, a humble amateur, was not sufficiently impressed with the importance of a mere form. The Bayote specimen described on pp. 147-148, is of course the type of *Buteo platypterus cubanensis*.

Yours truly,  
FRANK L. BURNS.

## PUBLICATIONS REVIEWED

THE HOME-LIFE | OF | THE OSPREY | Photographed and described | by | CLINTON G. ABBOTT, B. A. | Associate of the American Ornithologists' Union | with some photographs by Howard H. Cleaves, Associate of | the American Ornithologists' Union. | With thirty-two Mounted Plates | London | Witherby & Co., 326 High Holborn W. C. | MCMXI. Large 8vo, cloth, pp. 1-54, pls. 1-32. In America to be bought for \$2 at Bretano's, 229 Fifth Ave., New York City.

This treatment of a single bird species is, in the recollection and judgment of the reviewer, among the most faithful, as well as comprehensive, that has ever appeared. The text is admirably composed, from both a literary standpoint and that of ornithological veracity. An element of conciseness is apparent which accounts for a compass of fifty-four pages, where a modern "nature-writer" might have made two hundred.

No less fascinating than the text are the first-quality illustrations, selected each to show some particular feature of behavior of the birds, or construction of their nests. These photographs demonstrate a very close acquaintance on the part of the author with the subject of his essay. If proof were needed, this is alone sufficient to give the reader confidence in all the details of the author's narration of his experiences with the Osprey.

It might be urged that the Osprey, in the haunts where Mr. Abbott's studies were carried on, was an easy subject, because the

birds had for generations been accustomed to man. Such a bird, however, is of none the less interest, because available close to a great metropolis. In fact this contingency adds general interest. The Osprey has been treated before in many places, both biographically and photographically, but, in spite of its accessibility, always in a desultory fashion. It seems strange that expeditions are continually being undertaken to remote regions for the purpose of making life studies of particular birds seldom known even by name to the people at large. But then, in these cases, there are the elements of travel and adventure, which give that thrill which seems usually necessary to supply the impetus to both the contributors of expenses and the active agent in the enterprise.

Mr. Abbott has established a most commendable precedent, both in his selection of a close-at-hand subject for intensive ornithological study, and in the success with which he has observed facts and presented them in concise and literarily correct form.—J. GRINNELL.

THE BIRDS OF NORTH AND MIDDLE AMERICA: [etc.] by ROBERT RIDGWAY, [etc.] Part V. | Family Petroptochidae—The Tapaculos. | Family Formicariidae—The Antbirds. | Family Furnariidae—The Ovenbirds. | Family Dendrocolaptidae—The Woodhewers. | Family Trochilidae—The Hummingbirds | Family Micropodidae—The Swifts. | Family Trogonidae—The Trogons. | [etc.]. =bull. U. S. Nat. Mus. No. 50, Part V, pp. i-xxiii, 1-859, pls. i-xxxiii; "issued November 29, 1911."

Part V of Ridgway's great work shows a consistent maintenance of the very high standard set in Part I, which appeared ten years ago. The enormous value of the work as a whole to systematic and faunistic ornithologists is becoming increasingly apparent as a larger proportion of the undertaking yields to completion. We are informed in the preface of the fifth part that the number of species and sub-species described in the five volumes is 2038, and that about 1200 forms remain to be treated in the subsequent parts of the work.

The scope of the present installment is indicated in the title, quoted in its essential details above. The great bulk of the species belong to Mexico and Central America. Only the hummingbirds and swifts include regular representatives north of the Mexican line. Among these we note, of nomenclatural interest, that the limits of the genus *Nephocetes* are extended to include our Black Swift,

which becomes accordingly *Nephocetes niger borealis*.

In the statements of ranges of certain of our hummingbirds, notably the Allen and Rufous, we regret to see lack of accord with the facts as now recognized. These inaccuracies are the result of accepting many really erroneous records of occurrence at face value. A lamentable thing, borne in upon us strongly of late, is the confusion that has evidently arisen even among experienced field ornithologists in the identification of breeding hummingbirds. Discrimination has not been carefully drawn between species actually nesting, and species which merely appear in transit through a region even though the latter may occur at a season when other species have eggs or small young. The breeding of the Rufous Hummingbird on the Santa Catalina Mountains, Arizona, and in Santa Clara County, California, are extreme instances of unlikelihood. That the Allen Hummingbird is "resident" throughout the greater part of its range is very much to be doubted.

We call attention to this misfortune here, not in criticism of Mr. Ridgway, who in his function of compiler cannot be expected to analyse at all critically the vast numbers of records to be considered and incorporated, but to point out wherein we must revise our conclusions in the light of more careful field work. Even the last (1910) edition of the A. O. U. *Check-List* is pretty shaky in its "ranges" of hummingbirds.

But let us again refer to Ridgway's *Birds* in the more happy vein, which it most emphatically deserves. The detailed descriptions, drawn up by an experienced hand, are alone of inestimable value, especially as regards the species of tropical America. A thing we have observed is the tendency, and oftentimes expediency, of adopting well worded and accurate descriptions when once drawn up, in subsequent literature. Mr. Ridgway has already provided characterizations which are recognizable as his, copied far and wide in popular and semi-scientific books on North American birds. In the further development of ornithology of the now lesser known parts of the American continent, Ridgway's skilled treatment will always be the basis.—J. GRINNELL.

THE ECONOMIC VALUE OF BIRD LIFE By RICHARD H. SULLIVAN. [=Agricultural Education, Kansas State Agricultural College, vol. 3, no. 7, pp. 1-47, 30 figs. in text.]

At the present time there is considerable discussion as to the value of the great flood of bulletins that are yearly poured out from

our agricultural experiment stations. Doubtless many of them, if measured by the amount of reading they receive, are hardly worth the paper they are written upon. But often among them appears a paper, and not uncommonly one more popular than scientific, which fills a certain need and therefore finds a wide use.

Before the reviewer is a pamphlet entitled "The Economic Value of Bird Life," by Richard H. Sullivan and published by the Kansas State Agricultural College. Although largely a compilation of facts taken from other authors, yet we believe it meets a need and for this reason will find wide use.

The interest shown by the average farmer as regards a knowledge of the food habits of the common birds is seldom realized. The exhibit which has probably attracted the most interest and attention on the Agricultural Train here in California the last two years, has been one attempting to show the relation of native birds and mammals to agriculture. And in spite of the excellent work on California birds published by the U. S. Biological Survey, there has been a constant demand for a knowledge of the food habits of the common birds and especially for a handbook giving the identification and food habits of the common birds.

"The Economic Value of Bird Life" follows the usual order of papers of its kind, first dealing with bird life as checks on injurious insects and animals, and spending a whole chapter on the importance of insect pests on account of their enormous reproductive power, their remarkable food requirement, and the great economic losses caused by their depredations. The chapter on "Decimation of Bird Life and Its Consequences" places before the reader the stock examples of the increase of insect pests concomitant with a wholesale destruction of their bird enemies. A few local notes regarding the food habits of certain common birds of the state emphasizes the limitations of the paper and brings to the mind of the reviewer the importance of intensive study of the food habits of birds under local conditions; for the well known variation of the kind of food according to the available supply demands this. The evidence furnished by the writer appears to be almost too overwhelmingly in favor of the birds. An impartial presentation of facts, furnishing the reader with the bad points as well as the good, often gains the confidence of a man who otherwise might be antagonized by the one-sided view.

Although the paper in hand cannot be considered a valuable contribution to scientific literature, yet it doubtless fills a popular need and so proves its worth. And even though it

looks very diminutive and unimportant beside the elaborate work issued by the State of Massachusetts, Forbush's "Useful Birds and Their Protection", yet other states can well profit by the spirit of "The Economic Value of Bird Life", and by issuing even such an unassuming publication, fill an important need. —H. C. BRYANT.

## MINUTES OF COOPER CLUB MEETINGS

### SOUTHERN DIVISION

FEBRUARY.—The February meeting of the Southern Division of the Cooper Ornithological Club was held on Thursday evening, February 29, 1912, in the office of H. J. Lelande, 246 Wilcox Bldg., Los Angeles, with President Morcom in the chair and the following members present: Appleton, Chambers, John Lewis Childs, Dawson, Daggett, Gray, Hanna, Hubbs, Howard, Howell, Huey, Antonin Jay, Lamb, Miller, Robertson, Rich, Tracy, Willett, and Law.

The minutes of the Southern Division for January were read and approved and the minutes of the Northern Division for February were read.

On motion by Mr. Robertson, seconded by Mr. Willett, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership, Messrs. Chester Stock, Harry S. Hathaway, and Clarence H. Kennedy, nominated at previous meeting.

Applications were presented as follows: Wm. R. Flint, Throop Polytechnic Inst., Pasadena, Cal., proposed by A. B. Howell; Anna Head, 2730 Belrose Ave., Berkeley, Cal., proposed by J. Grinnell; Mrs. Harriet Williams Myers, 306 Ave. 66, Los Angeles, Cal., proposed by W. L. Dawson; Geo. E. Stone, Vet. Sci. Bldg., U. of C., Berkeley, Cal., proposed by W. P. Taylor; Margaret W. Wythe, 4231 Terrace St., Oakland, Cal., proposed by H. C. Bryant.

On motion by Mr. Willett, seconded by Mr. Howard, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present confirming nominations made by the officers of both Divisions, for Editor, J. Grinnell, for Business Managers, J. Eugene Law and W. Lee Chambers.

On motion by Mr. Robertson, seconded by Dr. Rich, and duly carried, the Southern Division approved the plan of the Business Managers to construct a small building at a minimum cost of approximately \$30.00 on the rear of the property of W. Lee Chambers, for storage of the large accumulation of back



numbers of *THE CONDOR*, Avifauna, cuts and so forth. W. Lee Chambers agreeing to repay to the Club the amount it invests in the building, at such time as the Club shall no longer have use for the room.

Mr. Dawson had with him a very handsome selection of late photographs of birds showing wonderful success; also several of the original paintings by Allan Brooks which will be put in the Edition de Luxe of "The Birds of California". Adjourned.—J. E. LAW, *Secretary*.

MARCH—The March meeting of the Southern Division of the Cooper Ornithological Club was held on Thursday evening, March 28, 1912, in the office of H. J. Lelande, 246 Wilcox Building, Los Angeles, with President Morcom in the chair, and the following members present: Messrs. Blaine, Chambers, Grey, O. W. Howard, Hubbs, Antonin Jay, Judson, Knickerbocker, Lamb, Lelande, Linton, Miller, Rich, Robertson, Willett, Zahn, Law; and as visitors, Mr. George Wood of Hollywood and Mr. McClusky of the new Museum.

The minutes of the Southern Division for February were read and approved and the minutes of the Northern Division for February were read.

On motion by Mr. Willett, seconded by Mr. Howard, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership, Mesdames Head, Meyers, and Wythe, and Messrs. Flint and Stone, nominated at previous meeting.

Application was presented from Mr. James Buckland of the Royal Colonial Institute, Northumberland Ave., London, Eng., proposed by Mr. W. Lee Chambers.

The committee appointed to make recommendations in regard to game laws for southern California made the following recommendations which, on motion of Mr. Miller, seconded by Mr. Chambers and duly carried, were adopted and ordered filed:

	OPEN SEASON	BAG LIMIT
Valley Quail	Oct. 15-Nov. 15	20 per day
Mountain Quail	Sept. 1-Dec. 1	10 " "
Mourning Dove	Sept. 15-Oct. 15	20 " "
Band-tailed Pigeon	Nov. 1-Mar. 1	20 " "
All Ducks	Oct. 15-Feb. 15	20 " "
Wilson Snipe	Nov. 15-Apr. 15	20 " "
Killdeer	Oct. 15-Feb. 15	20 " "
Rail	Nov. 1-Dec. 1	15 " "

Closed season for at least 2 years and longer if possible—Ibis, Avocet, Stilt, Godwit, Yellow-legs, Willett, Curlew, Black-bellied Plover, Mountain Plover.

Be excluded from game birds and can pro-

tected list—All other Waders, including Sandpipers, Phalaropes, Dowitcher, Knot, Sanderling, Tattler, Semipalmated and Snowy Plover, Surf-bird, Turnstones, and Oyster-catchers.

Pump guns for all game birds be prohibited after January 1, 1915.

On motion by Mr. Howard, seconded by Mr. Miller, the above committee was continued and instructed to make a list of the birds commonly considered harmful, but in reality beneficial, and make an outlined plan looking toward distributing and posting such facts where they will come to the attention of gunners.

A few brief notes from Coeur d'Alene, Idaho, by Mr. H. J. Rust, were read by the Secretary. Adjourned.—J. E. LAW, *Secretary*.

#### NORTHERN DIVISION

MARCH—The monthly meeting of the Northern Division was held at the Museum of Vertebrate Zoology, Berkeley, on Saturday evening, March 16. President Coggins was in the chair, and the following members present: Miss Atsatt and Miss Heald, and Messrs. Brown, Boyce, Camp, Carriger, Gifford, Grinnell, Ritter, Storer, Taylor, and Swarth. Professor H. B. Torrey and Mr. A. C. Chandler were visitors. The paper of the evening, "The Relation Between Size of Wings and Extent of Flight in Birds," by Professor W. E. Ritter, was taken up first, and the reading of the paper, with the subsequent discussion, occupied most of the session.

After a short intermission the routine business before the meeting was taken up. The minutes of the February meeting were read and approved, followed by the Southern Division February minutes. The following, whose names were presented last month, were elected to membership: Miss Anna Head, Miss Margaret W. Wythe, George E. Stone, Frank H. Renick, Lloyd Servis, and Frank M. Phelps.

New names were presented as follows: Mrs. Harriet Williams Myers, by W. L. Dawson; Wm. R. Flint, by A. B. Howell; James Buckland, by W. Lee Chambers.

Mr. Taylor, Chairman of the Conservation Committee, gave a brief summary of the work accomplished, and an outline of the plans of future work.

Mr. Storer suggested for the consideration of the Club a plan for the acquisition and care of a series of photographic slides, dealing with ornithological subjects, to be held for the use of Club members. The chair appointed Mr. Storer a committee of one to look into the matter, and ascertain the practicability of the idea. Adjourned.—H. S. SWARTH, *Secretary*.







**For Sale, Exchange and Want Column.**—In this space members of the Cooper Club are allowed one notice of about 35 words in each issue free of charge. Books and magazines can be offered for sale or exchange; bird skins and eggs can be offered in exchange, but *not for sale*. Notices must be written plainly, on one side only of a clean sheet of paper. For this department address W. LEE CHAMBERS, *Eagle Rock, Los Angeles Co., Cal.*

WANTED—I will give two dollars cash for EACH number, in ORIGINAL COVERS, CLEAN and in PERFECT CONDITION for binding, of the following publications, to-wit: Wilson Bulletin, nos. 4, 6, 7; The Osprey (new series), vol. I (1902), no. 7; The Oologist, vol. III (1886) vol. IV (1887), no. 1; vol. V (1888), no. 6; vol. VI (1889), no. 4; The Journal of the Maine Ornithological Society, vol. IV, numbers 3 and 4; vol. V, no. 3; The Iowa Ornithologist, vol. II, no. 4; vol. IV, nos. 2 and 4.—G. H. MESSENGER, President Linden Bank, *Linden, Iowa*.

WANTED—Correspondence with persons who have done any work on Birds, Mammals, Reptiles or Amphibians of Wyoming. Send names and addresses of yourselves and friends to ERNEST PILLSBURY WALKER, *Dept. Biology, University of Wyoming, Laramie, Wyoming*.

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WANTED—Wilson Bulletin 2, 4; The Oologist, Utica, N. Y., vol. I complete; II, 1, 2; III, 8, 9; IV, complete; V, complete; Bulletin of the Cooper Ornith. Club, vol. I, odd nos. W. LEE CHAMBERS, *Eagle Rock, Los Angeles Co., Cal.*

WANTED—Ornithologist & Oologist, vol. 13, no. 2, Feb. 1888; Osprey 3, no. 7. O. WIDMANN, *515 Von Versen St., St. Louis, Mo.*

WANTED.—Of the Utica Oologist, the following back numbers for which I will pay the highest cash price, viz: Volume II, nos. 1, 2, 3; vol. III, nos. 9, 12; vol. IV, no. 7.—R. M. BARNES, *Lacon, Ill.*

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